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No. 06-1222 Oct. 30, 2006

In the
Supreme Court of the United States

EDDIE PAUL MUNOZ; PRO SE,
- Petitioner

v.

CENTRAL TELEPHONE
COMPANY NEVADA; ET AL
-Respondents

On Petition for a Writ of Certiorari to the United States Court of Appeals for the 9th Circuit

APPENDIX N-O
VOLUME 2

EDDIE PAUL MUNOZ ; Pro Se
P.O. BOX 61344
LAS VEGAS, NEVADA 89160

APPENDIX N

PGS A-112-133

P.U.C. DOCKET 00-6057

EXPERT WITNESSES

BATES RECORD 005656-008660

KEVIN MITNICK DIRECT TESTIMONY

P.U.C. DIRECT TESTIMONY

RON BARDARSON: EXPERT WITNESS

P.U.C. STAFF

APPENDIX 6
DIRECT TESTIMONY
P.U.C. DOCKET
00-6057
EXHIBIT 43

EDDIE MUNOZ vs. CENTRAL TELEPHONE COMPANY-NEVADA, d/b/a SPRINT OF NEVADA

DOCKET NO. 00-6057
DIRECT TESTIMONY OF KEVIN MITNICK

Mr. Mitnick would you please state your background and expertise in the computer industry regarding the following.

A. Unlawful security breaches (hacking)

B. Information and data security trespasses

C. Related computer security and information technology issues

D. Computer and/or social-engineering fraud prevention

Have you given your advice to agencies public or private regarding these issues and how to prevent future security violations?

Yes I have testified before The Committee on Governmental Affairs United States Senate on the techniques intruders use to compromise computer systems and what steps the Federal Government

Could take to minimize these risks. I am currently writing a book, which will be published by Wiley & Sons on information security issues related to exploiting the human element. I currently host a talk radio show on KFI talk radio in Los Angeles that covers privacy and security issues relating t the internet.

Q1. Is it possible to hack into the Sprint network?

A1. Yes, I was able to do this up until February 15, 1995.

Q2. How did you gain access to the control consoles on Sprint Las Vegas switching systems?

A2. Through dial-up modems Each Nortel DMS switch had an unpublished telephone number, which only required knowledge of a valid username and password.

Q3. How would you access these Nortel DMS switches if it had this unpublished telephone number, username and password?

A3. I would call up RCMAC (Recent Change Memory Authorization Center) posing as a Sprint Employee to have line restored to allow incoming calls. I obtained the default user name and password that Northern Telecom support configured in each switch. The username was: NTAS with a password of HELPER or NTAS

Q4. What would happen after that?

A4. I would have the access to the switch which would allow me to make changes in software that would give me the ability to reroute calls, among other things.

Q5. Were you in the Las Vegas area at the time of the access to the switch?

A5. Sometimes, I recall accessing the south 5 switch from Seattle, WA and Raleigh, NC.

Q6. Were there any other ways to access the Las Vegas Sprint telephone system?

A6. Yes, With a testing system CALRS pronounced "Callers" phone company personnel could run tests on customer lines, "loops" in the parlance of telephony, from a central location. The system consisted of a handful of client computers, and remote servers attached to each of Sprint Central Telephone DMS-100 switches.

Q7. Do you feel that the Las Vegas Sprint-Central servers are well protected from outside access from any source?

A7. No, because they were accessible through low speed dial up modems, guarded by a technique

only slightly more secure that a simple password protection.

Q8. Could you explain in detail how this happened.

A8. The server required the client, normally a computer program, to give the proper response to any of 100 randomly chosen challenges. I would prompt you with a challenge, and you would have to provide the correct response which was based on an internal seed list. For example, the system may issue a challenge of 54, and the proper response may be 3FAE. I recall the response was a 4 hex characters.

Q9. How exactly were you able to get the dial-up numbers information from Vegas Sprint-Centel employees.

A9. It was easy. By conning Sprint employees. I was able to get the "seed list" of challenges and responses from the company that made the system, Ontario-based Northern Telecom, renamed in 1999 to Nortel Networks. All I had to do was call Nortel and have one of the engineers talk me through it. I just told them I was writing software that had to interface with it.

Q10. How were you able to use this system?

A10. It gave me the ability to among other things, silently monitor phone lines or originate and answer phone calls on other subscriber's lines. The only other equipment required was a computer and two phone lines.

Q11. How difficult would it be for an employee to sabotage a business if they were to have access to the systems that were just discussed?

A11. This will be explained in detail when my testing has been completed.

Q12. Are you know investigating the Munoz case with Sprint Centel?

A12. Yes, with the help, of another computer consultant to assist with the computer work required. Mr. Munoz hired Alex Kasper of Nexspace on my recommendation.

Q13. What have you done so far in the investigation?

A13. We have moved Munoz's phone lines to an office in Westwood California to monitor any changes in call volume and to determine the origin of the trouble. Mr. Munoz's calls were answered live and the content of the request was sent to Mr. Munoz's office using the internet.

Q14. What was the purpose of this move of the phone lines?

A14. So that any calls placed to Munoz's telephone numbers would not terminate through Sprint's network. This was for the purpose of determining at what point in the network the calls were being dropped or intentionally diverted somewhere else. We have removed Mr. Munoz's equipment out of the loop to counter any argument that the problem is being caused by customer.

Q15. Have you finished your investigation?

A15. No, at this time we are waiting for more information from the long distance carrier to before we can finish the investigation. So far we have experienced dropped calls and we tend to investigate further. Several complications arose before starting the test. For example, several hotels on the Las Vegas Strip block 866 numbers although the 866 exchange has been around since 1993.

We will then prepare a final written report and supplement this testimony.

Q16. Have you had an opportunity to review any of Munoz's phone trouble ticket provided by Sprint regarding trouble on his phone lines (such as diverted, dropped calls, busies?)

A16. Yes. There is plenty circumstantial evidence, but our investigation has been hampered because Sprint has refused to provide the details needed to decipher the codes necessary to interpret the trouble tickets provided by their office. Sprint's behavior may be intentional to interfere with our investigation of the matter. We have only been

provided with a partial list of the internal codes that have been requested by Munoz. Without the meaning of what the codes man, it is difficult to determine what trouble was found by Sprint technicians.

Q17. Could you explain further in an overview if there a problem?

A17. Sprint has been dragging its feet and been very uncooperative, it wont speak to us and it has only provided a partial list of the internal codes that have been requested by Munoz. Without the meaning of the codes mean, it is not possible to know what trouble was found in the central office and the switch and translation department of the NOC technical assistances group in Kansas City and Las Vegas. Failed to supply us with the proper data reports to draw a conclusion with test results, which hampered our investigation.

VERIFICATION

STATE OF CALIFORNIA)
)ss:
COUNTY OF VENTURA)

KEVIN MITNICK, being first duly sworn, under oath, deposes and says:

That ha has read the forgoing DIRECT TESTIMONY OF KEVIN MITNICK and understands its content and that the same is true of his own knowledge, except for those matters based upon information and belief, and as to those matters, he believes them to be true.

(s)_____
KEVIN MITNICK

SUBSCRIBED AND SWORN to before me this 1st day of November 2001.

(s)_____

NOTARY PUBLIC
RONALD LEVINE
Commission # 1323347
Notary Public- California
Los Angeles County
My Comm. Expires Oct 2, 2003

PUBLIC UTILITIES COMMISSION OF NEVADA
PREPARED DIRECT TESTIMONY OF RON BARDARSON
Docket No. 00-6057

1. **Q. PLEASE STATE YOUR NAME, BUSINESS POSITION, AND ADDRESS.**
A. My name is Ron Bardarson. I am a Staff consultant for this Docket. My correspondence address is P.O. Box 2022, Sparks, Nevada 89432.

2. **Q. DOES ATTACHMENT RB-1 CORRECTLY SET FOR THE YOUR EDUCATIONAL AND OCCUPATIONAL BACKGROUND?**
A. Yes, it does.

3. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**
A. I am assisting Staff with its analysis of discovery material, the parties' testimony and independently obtained information. I have provided to Staff my knowledge of computer intrusion techniques and best security practices as applied to the telecommunication industry. I am presenting Staff's technical recommendations concerning the complaint filed by Mr. Munoz against Central Telephone Company-Nevada, dba Sprint of Nevada ("Sprint").

4. **Q. WHAT DO YOU RECOMMEND TO THE COMMISSION?**
A. I recommend the following:

The partial review of Sprint's internal security practices begun during this docket should be completed in a separate Staff investigatory docket. Upon completion of a Staff review of Sprint's internal security practices, Staff would file a report with the Commission. Based on that report and any proceedings conducted in that case, the Commission can determine whether or not to order Sprint to conduct an annual security and to file the results of its review, under seal if necessary, with the Commission as a stand alone filing or as part of the "Annual Report" that Sprint makes to the Public Utilites Commission.
The technology available to the average person, including those that would do harm, grows at an astonishing rate. While Sprint has economic incentives to ensure Public Switched Telephone Network ("PSTN") security, the Commission should be informed of Sprint's security measures, as the public would suffer a great harm if breaches occur.

5. **Q. WHAT WAS YOUR MOST RECENT EXPERIENCE THAT WAS APPLICABLE T THIS PARTICULAR CASE?**

A. For four years, I was the system administrator for Intercomm Internet Services, an ISP in Reno. My job duties included working with telephone company personnel provisioning T1/PRI services and network security. Nearly every ill of the Internet occurred at Intercomm, so I have first hand knowledge of a hacker operating within one's network and of security measures necessary to exorcise him. Intercomm also had its share of telephone service problems.

6. **Q. CAN YOU SUMMARIZE YOUR UNDERSTANDING OF MR. MUNOZ' COMPLAINT?**

A. Mr. Munoz' complaint has at least three different aspects. First, a potential problem exists with hotel PBX systems either blocking or

diverting calls some of the time. Next, Mr. Munoz receives incomplete calls, meaning that before Mr. Munoz' operator can begin the handling process the call has been disconnected. Finally, discrepancies are claimed between Sprint's billing and Mr. Munoz' in-house logging. Mr. Munoz claims that the problem must lie within his service provider, as whenever he changes service providers, he experiences an increase in call volume. Mr. Munoz claims that these diverted calls are routed to his competitors.

7. **Q. CAN ANYTHING BE DONE ABOUT THE FIRST ASPECT?**

A. No, hotel PBX systems are independent of Sprint.

8. **Q. CAN YOU COMMENT ON THE SECOND ASPECT?**

A. Yes, although I need to provide a brief overview of the PTSN first.

9. **Q. PLEASE PROVIDE THAT OVERVIEW.**

A. The PSTN has two separate subsystems: 1) the voice network over which people actually talk and, 2) the associated switching network that controls the trunk selection, setup, and takedown. The central component of the Sprint Las Vegas voice network is the DMS-100 switch produced by Nortel. The switching system is composed of a hierarchy of computers, in aggregate known as 'SS7'; also referred to as to as 'out of band signaling'. I considered both systems while evaluating their potential for causing incomplete calls while under the control of a potential hacker. It must be stressed that a hacker is only one of many alternatives that may result in incomplete calls. Incomplete calls can also occur due to incorrect equipment configuration at either Sprint's Central Office end or at Mr. Munoz' Customer Premesis Equipment ("CPE"). Over the course of the years spanning this complaint, faulty equipment or faulty equipment configuration has

been detected and rectified many times. Additional alternatives could include callers with 'cold feet' or indecision over ad selection, cellular phones with insufficient power to complete a call (these calls last about 11 seconds), and kids using 'war dialers' to search for modem lines. ['War dialing' is a term taken from the movie, WAR GAMES, in which a computer uses a modem to dial a pool of telephone numbers].

10. **Q. WHAT DOES THE DMS-100 DO?**

A. The DMS-100 switch controls the translation from phone numbers into the internal Sprint wire numbering system, provides dial tone and ringing signals, and isolates the telephone caller from the SS7 system. It resides within a Central Office building and supplies these services to approximately 100,000 locations. Generally, stories about telephone hackers taking over switches involve DMS-100 or its cousins.

11. **Q. HOW CAN THE DMS-100 CAUSE AN INCOMPLETE CALL WHILE DIVERTING THE CALL TO A COMPETITOR OF MR. MUNOZ?**

A. Generally, it cannot. There is no switch function within the controlling software that first rings one number, waits a few seconds and then sends the call to a second number. The only remote possibly would require that avery sophisticated hacker gain access to the switch software, replace it with modified software while remaining undetected (this routinely does occur on the Internet, it is known as 'rootkiting a box') and then causing this behavior. The big question is why such a sophisticated hacker, who would need sophisticated DMS-100 designer abilities, would be stupid enough to alert Mr. Munoz to the process by first dialing his office.

12. **Q. DO YOU BELIEVE THAT SUCH A HACKER EXISTS?**

A. It is rather unlikely, since hackers love to brag about their exploits. While Mr. Munoz insists that this problem has been going on for years, a story this big would not remain quiet and would eventually show up in underground literature. That literature is online within the Internet; searching it failed to produce any likely candidates.

Mr. Mitnick's direct testimony includes a claim that he achieved access to the DMS-100 regularly until 5 years ago. Sprint has removed his access path. The underground literature shows that Mr. Mitnick's alleged DMS-100 switch hacking was limited to translation table modifications, with which he may have had help. Mr. Mitnick did not respond to a Staff discovery request asking for explicit details on his methods. Nonetheless, I am containing to pursue discussions with Sprint about its internal DMS-100 logging and crosschecking of Sprint security practices to eliminate this possibility, as it may pose a danger to the PSTN beyond merely depriving Mr. Munoz of income. The amount of cash flow within the adult escort industry is sufficient to support such a hacking enterprise and the possibility simply cannot be discarded. If there was a hacker present, he again requires some sophistication, because he has avoided detection during test I will relate shortly.

13. **Q. WHAT ABOUT SIMPLY DROPPING CALLS?**

A. If the DMS-100 switch had a fault that caused dropped incoming calls, Sprint would be overloaded by customer complaints.

14. **Q. HOW WOULD THE SS7 NETWORK FIT IN?**

A. It is even more unlikely that the ss7 is responsible for Mr. Munoz' dropped calls. In reviewing the SS7 switching protocol with an aim to subvert it, I developed a hypothetical spoof that would cause the dropped calls aspect, but without

any diversion. Subsequently, I learned that Sprint maintains an active monitor on the SS7 network. I am following up on the SS7 monitor's capabilities; if they match my assumptions, any such spoofing would be detected if it originated outside of the switches involved in the telephone connection.

15. Q. WHAT KIND OF TESTS HAVE BEEN RUN WITH REGARDS TO INCOMPLETE CALLS?

A. There have been several small or informal tests conducted by Staff individuals. Additionally, while visiting Mr. Munoz to examine his CPE, I counted only 1 incomplete call in the 6-7 that arrived. While these attempts provide helpful information, a more formal test is necessary.

16. Q. WAS A STATISTICALLY SIGNIFICANT TEST CONDUCTED?

A. Yes. Over a year ago, a test was conducted during Comdex. Mr. Collins discusses it within his direct testimony. About 200 calls were eventually placed, all without any failures within the Sprint telephone network. The calls were broken up into groups of about 40 and placed within a very short time. Even a drop rate as low as 10% would have been detected within each of those 40 tests (independent and equal probability for each call). Taken overall, the successful ~ 200 calls imply that any drop rate is less than 3%. With regards to the hacker hypothesis, these results would imply that any phone hacker operating against Mr. Munoz had advanced knowledge of the test and took extensive steps to shut down any diverting network. Even though I would have changed a few things, this testing process was done in a sufficiently appropriate manner and quantity so as to be reliable and dependable.

17. Q. WHAT ABOUT THE CALL LOGGING DISCREPANCIES?

A. My visit to Mr. Munoz's office showed that he has extensive call logging abilities. Afterwards, while reviewing the visit, I realized hat he apparently does not have a central time synchronization ability. Without time synchronization of the various recorders to Sprint time, the effort to crosscheck Sprint logs against Munoz logs becomes enormous and very fallible. Computer clocks are notoriously inaccurate; the cheaper ones drift rather rapidly each day. Additionally, Mr. Munoz had overlooked enabling one of the recorders after completing an adjustment to it several hours before my visit. When he enabled it, it began printing numerous log records, leading me to wonder if the internal buffer had been overwritten while paused, which casts doubt upon the reliability of its log.

18. **Q. DO YOU HAVE ANY RECOMMENDATIONS TO MR. MUNOZ?**

A. With regard to his telephone services, I strongly recommend that he simplify them. The simpler the system, the more reliable. The shorter route between the caller and the Munoz office, the faster the call will provide the caller with a ringing signal – otherwise the caller may hang up thinking the call did not complete. I noticed during my visit that his business calls which are routed to Nexspace and back through Paetec (the long distance provider) too a long time between triggering a call logger and ringing one of the office telephones. It seems that all of his services can be handled within the T1 provided by Sprint. Finally, Mr. Munoz should find out if there is a Small Office service offered by Sprint that includes Sprint supervising his PBX operation. This can dramatically reduce downtime and eliminate finger pointing for logging discrepancies. Mr. Munoz also should rotate any technical help he solicits, in order to find the most competent.

19. **Q DOES MR. MUNOZ' DATA SHOW THAT CHANGING PROVIDERS RESULTS IN INCREASED CALL VOLUME?**

A. No. See Attachment RB-3 for Mr. Munoz' data and RB-4 for my analysis of that data. Mr. Munoz' numbers represent income. My analysis is based on experience, having looked at millions at data points while employed at ESL. Switching providers does not improve Mr. Munoz' income. In fact, during the switch from AT&T to Telco, income dropped by nearly 50%. Note especially that income from the Nexpace provider is rather good.

20. **Q. MR. MUNOZ INCLUDED CALL DROP DATA FROM NEXSPACE IN A RESPONSE TO STAFF DISCOVERY REQUEST 43. DO YOU HAVE ANY COMMENTS ON THAT DATA?**

A. It must be wrong. Mr. Munoz' previous call drop percentage has ranged around 30% by his claim. Mr. Hackman's 9 call test chows that percentage to be high, as does my simple 1 of 6 test. Yet, the analysis of the Nexspace data claims an incredible 80+% drop rate while Mr. Munoz' claims his income has improved! Common sense says that the money is right and the Nexspace analysis is flawed.

21. **Q. IN YOUR OPINION, HAS MR. MUNOZ PROVEN HIS CASE IN THIS COMPLAINT PROCEEDING?**

A. While even a larger customer would have difficulty establishing such a complaint against a telecommunications provider, to date Mr. Munoz has not demonstrated the validity of his complaint against Sprint. Although Mr. Munoz filed voluminous materials with the Commission and provided boxes of additional documents in response to Staff's discovery requests, the documents provided generally refer to incidents of computer (not phone switch) hacking. In the few

instances in which some phone hacking is involved, it is generally rather low-level, not the sophisticated hacking level required to create Mr. Munoz' set of problems.

22. **Q. DID MR. MUNOZ' EMPLOYMENT OF KEVIN MITNICK HELP?**

A. Mr. Munoz' employment of Mr. Mitnick did not clarify the complaint. Even among the cyber underground, Mr. Mitnick is not known to be a phone switch expert. In fact, by moving Mr. Munoz' phone lines, Mr. Mitnick muddied the waters. The idea behind effective troubleshooting is to reduce the number of possible problem sources, not increase it (i.e., Paetec is now a problem candidate, as is Nexspace, and the office which received the calls, etc.). Mr., Mitnick's skills are definitely in "social engineering", effectively leading a targeted person to make a desired action based on his allusion.

The choice of Mr. Mitnick immediately shifted Sprint into an adversarial position because of Mr. Mitnick's skills and history. Mr. Munoz' daily logs show that additional Sprint help disappeared. That assistance was beyond the normal service level I ever received, despite having many times the volume and billing with my provider, Attachment RB-5. While Mr. Munoz gained some press notoriety with Mr. Mitnick and, perhaps, gained some credibility with a hacker hypothesis, I have not seen anything from Mr. Mitnick that increases my belief. A technical analyst that simply thoroughly examined Mr. Munoz' CPE, and worked with Sprint to resolve problems, while crosschecking everything, could have provided a rock solid foundation for his case, should there indeed be some problem beyond Mr. Munoz' CPE.

23. **Q. WHY ARE YOU INVESTIGATING THE HACKER POSSIBILITY SINCE YOU HAVE**

MENTIONED THAT IT IS RATHER LOW PROBABILITY?

A. Thinking about the probability of occurrence is the wrong viewpoint. My training tells me that the correct viewpoint is the damage cost such a probability has versus the cost of some small effort to further reduce a low probability. The damage cost far outweighs the cost of a through review.

24. **Q. SHOULDN'T SPRINT BE CONDUCTING SUCH A REVIEW?**

A. I think so, however, while I have encountered several capable Sprint employees, each an excellent specialist, some have clearly never considered the presence of a sophisticated hacker, the kind routinely found on the Internet nowadays. Additionally, I have not yet encountered anyone thinking about "breaking into your own system", which is the best way to improve a system's security. If such a person exists, I cannot help wondering why she/he is not a witness in this docket..

25. **Q. IS IT POSSIBLE TO RULE OUT A HACKER WITHIN THE SPRINT SYSTEM?**

A. Based on my review of the materials submitted, no. To explain this, I need to spend some time discussing the never ending game between 'white hats' and 'black hats'. For instance, scrambling satellite TV signals was once performed with ViedoCypher I. This scrambling system was broken and pirate descramblers were widely deployed. The 'white hats' developed and touted VideoCypher II. The 'black hats' broke VideoCypher II faster than VideoCypher I, because of the education they had received during their initial efforts and because the more complex a system becomes, the more likely someone may introduce a weakness. While at ESL, we developed surveillance systems to intercept drug-related radio traffic. The 'black hats' switched to

frequency hopping radios; we broke the radio hope sequence. Once again the other side upgraded their technology and once again we detected and devised ways of beating this upgrade. Each side had a strong purpose behind their efforts and the introduction of new technology by the other side did not deter that purpose.

There are many such examples, but as a general rule the secure lifetime of any new system introduced by one set of 'hats' grows shorter as the other set of "hats" has become educated from previous efforts and because of the possibility of a complexity weakness. In examples where a new system was introduced that survived much longer than might be expected from said rule of thumb, it is because the time was spent attempting to 'break into your own system'. Surprisingly, another reason why a system is more resilient, is that it is openly discussed.

26. **Q. CAN YOU RELATE THIS TO THE PHONE SYSTEM?**

A. Many years ago, telephone call switching was performed 'in-band', meaning that the switching signals were within the audio passband for the voice conversation. Piecing together snippets of information gathered from the phone company, groups of phone hackers were eventually able to place free phone calls and occasionally mislead attempts to trace them. Eventually, the switching was moved to the SS7 system, and most phone cloning demonstrated.

Within the adult entertainment industry, more than sufficient financial rewards are available to provide a purpose. This is not the only group of people that might have a desire to obtain switch access. The existence of many Internet incidents demonstrate that hackers are twiddling their thumbs and telling stories of the old days.

27. Q. IS THERE A PARTICULAR AREA TO EXAMINE?

A. A very major difference between the Internet and the phone system is that of access. The Internet provides roughly equal access; every point of the system can contact every other point. The phone system provides divided access; consumers are separated from switching. This does a pretty good job of blocking hackers. However, these switches are complex devices in constant demand and cannot be allowed even the shortest down time. Therefore, switches have inherent (and required) backdoors, in order to ensure minimal downtime. The fiber network that connect the switches carry multiple signals simultaneously. While fiber lines can be tapped and the signals demultiplexed, this access point is detectable.

The DMS-100 switch backdoor is via a modem line guarded by a challenge-response password system. A similar backdoor probably exists inside SS7 computers. Thus, the switches should be examined first.

28. Q. THIS STILL SEEMS PRETTY EXTREME. CAN YOU PROVIDE MORE DETAIL?

A. Certainly. While on tour of a Sprint Central office, I noticed a Windows computer in the area of the SS7 control console. It is most likely present to provide email to the operator. Because of the authority of Staff, I was able to learn the name of a switch operator a few minutes later. These two bits of information, a Windows computer for mail colocated with the switch and an operator name could have been obtained in many, many ways.

Assuming I am a potential hacker, I could easily perform some basic detective work and similarly locate a switch operator, eventually finding a way to meet him or her. With some research and some quick wits, I could establish a common interest

with the switch operator. For instance, he is a fight fan and I work for a company that gets extra tickets, or she is a chess player and I suggest a correspondence game after a quick skittles game. My sole purpose is to get an email address and leave an expectation that I will send something important. All of the above is basic social engineering, as described by Mr. Mitnick during his weekly radio shows.

I could then send an email to that Windows computer in the SS7 area with a specially crafted enclosure designed to give me full remote access to the computer. Perhaps, Sprint Internet security prevents reception of email with enclosures. I counter with a website link that downloads the same package. During the night, I stroll through the Windows computer looking for useful clues. Perhaps the challenge-response algorithm controlling access to the modem line is S/key and the Windows version of the S/key calculator is installed on that computer—I get the switch access codes. Perhaps an internal memo has been distributed, printed and then deleted that contained mention of some of the switch access codes. I dig it out of the Recycle Bin and use the samples to crack the algorithm and generate future keys. Or, perhaps I scan the unused areas of the hard disk looking for clues. Finding nothing, I investigate the email to find other people to try next.

Having access to a single computer and its email, I can spread to other Windows computers simply by pretending to be internal email. Eventually, I might encounter some way into the DMS-100 or SS7 backdoor. One of the surprising features of this attack is that the higher one progresses into the company hierarchy, the easier the process becomes, unless there is a strongly enforced security policy WITH crosschecking. With

independent monitoring of the backdoors, any such hacker would eventually trip an alarm. All of the steps in the proceeding paragraphs have been possible for several years. More importantly, such hacking was VERY easy to accomplish shortly after company email was mandated. Nor is such hacking far-fetched for a certain crowd of people, whole presence is not in doubt as they are constantly making new headlines. Las Vegas is the usual site of DEFCON, an annual hacker convention, so there is probably someone knocking on the door; whether they can do more than that is the question.

29. **Q. WHAT IS YOUR CONCLUSION TO THE COMMISSION?**

A. The best result for the Nevada consumers from this case would be the completion of a Staff internal security review in a separate investigatory docket and, if ordered by the Commission, establishment of an annual report from Sprint to the PUC regarding Sprint's ongoing security audit. If the specter that Mr. Munoz raises does indeed exist, there are rather disturbing consequences. It would be better to rule out the possibility than suffer them.

QUALIFICATIONS AND EXPERIENCE OF RON BARDARSON

EDUCATION

1975-1977	United States Naval Academy, Physics minor.
1977-1979	University of California, Bachelor of Science in Physics, with honors.
1979-1982	States Univ. of New York, Graduate work in Nuclear and Astrophysics.

WORK EXPERIENCE

2001 to Present — Independent Consultant

1997-2000 — System Administrator
Intercomm Internet Services

System Administrator for Intercomm, a 24/7 operation, thus system stability is a critical factor. Their network is composed of a dozen special and general purpose computers; a mix of Solaris, Cisco and WinNT systems, serving over 2000 users. Devised a tape backup system supplemented by a daily backup to a spare disk. Instituted a paper trail for system configuration changes. Numerous script tools written for support staff and for investigative troubleshooting . Installed Solaris on new hardware and initial tuning of configuration. Developed method of IP transfer without loss of connectivity. Created scheme for virtual IPs housing common services to allow for hardware changes without loss of service.

1984-1996 — Staff Engineer/Scientist,
Direction Finding System,
TRW SIG (formerly ESL).

ESL specialized in high performance, low volume defense systems. While working on a Direction Finding project, my effort staged through: paper design, computer verification, initial anechoic chamber scale modeling, statistical data analysis, subsystem hardware support, antenna test, system test & integration in the anechoic chamber, and flight test (for airborne

versions). Customer presentations were common, as were test plans, capital equipment planning, and budget reviews. Directed technicians and engineers for eleven years. Assistant Project Manager with oversight for $2M budgets and 3-6 member teams for five years. Participated in TRW Management Training Program.

APPENDIX O

PGS 134-162

P.U.C. DOCKET 00-6057

CLOSING ARGUMENTS OF
EDDIE MUNOZ AUG-16-2002

P.U.C. DOCKET REBUTTAL
TESTIMONY OF SCOTT COLLINS

REBUTTAL TESTIMONY FROM
EDDIE MUNOZ

APPENDIX 8
IN
P.U.C. DOCKET
00-6057
CLOSEING ARGUMENT
FILED AUG 16, 2002

CLOSING ARGUMENT OF EDDIE MUNOZ

Complainant Eddie ("Munoz"), by his attorney, PETER ALPERT, ESQ., respectfully submits his written Closing Argument

A. **Summary of case history.** Munoz has operated several businesses in Clark County for many years. In 1992, Munoz filed a complaint with the F.B.I. alleging that his incoming telephone calls routed through Sprint's network were being diverted. (Transcript, Volume 2, p.301, line 4 to p. 302, line 4.) Munoz also filed complaints with the F.C.C. (Tr., V . 2, p. 305, 1. 24 to p. 306, 1.9.) Other complaints of diverted telephone calls were made directly to Sprint. (Tr., V. 2, p. 306, 11. 13-23.) In February, 1994, Munoz filed a similar complaint with the Nevada Public Utilities Commission ("Commission"). (Tr., V. 2, p. 360, 11. 12-25.) None of the above complaints filed by Munoz resulted in a finding as to why his telephone calls were not being received.

After numerous subsequent contacts with Sprint regarding the same diversion problem and with no progress towards a solution, Munoz filed a Verified Petition for Alternative Writ of Mandate on April 11, 1999 in the Eighth Judicial District Court in Las Vegas, Nevada (Case No. A401763) seeking to have the Commission investigate his numerous complaints and to hold a public hearing. The case was dismissed voluntarily by Munoz on April 29, 1999 after the Commission agreed to open a file and pursue this matter. After one year of delay on the part of the Commission, Munoz filed a second Verified Petition for Alternative Writ of Mandate on May 19, 2000

(Case No. A419237), which precipitated the proceedings that culminated with the formal hearing in this matter.

B. **Burden of proof.** At the outset of these proceedings, the Commission informed Munoz that he had the burden of proof regarding his allegations of phone diversion and/or blocking of calls. For several reasons, placing the burden of proof on Munoz was not realistic nor was it a practical means of determining the cause of the problems raised by this docket.

1. All of the network phone lines, switches and other transmission equipment for the delivery of telephone calls to Munoz are controlled by Sprint and Munoz has no access to them for the purpose of performing testing procedures.

2. Munoz is a small businessman who does not have the financial capability of funding the type of testing required to determine where the problem lies, even if he did have access to the Sprint network.

3. Much of the information requested from Sprint by Munoz during the discovery process was deemed by Sprint to be either proprietary, subject to the attorney-client privilege or destroyed, thereby further hampering Munoz's ability to determine the cause of his problems. Despite these roadblocks, Munoz's efforts in this case led to the discovery of the following facts:

a. Several other persons and businesses experienced problems during the 1990's similar to those experienced by Munoz and they filed complaints with Sprint, the Commission and various other agencies. See, i.e., Exhibits 1-5. Rick Hackman, in his Direct Testimony, stated that he saw a pattern in these complaints and that "it seemed more than a coincidence." See Exhibit 53, Q&A 17.

b. The Commission's Staff opined at various times "that something weird was going on" and that "there has got to be something going on here" based on the complaints of diverted/blocked calls received by the Commission. See Exhibit 56.

c. In Kevin Mitnick's Direct Testimony, he opined that "there is plenty of circumstantial evidence, but our

investigation has been hampered because Sprint has refused to provide the details needed to decipher the codes necessary to interpret the trouble ticket reports provided by their office." (Exhibit 43, Q&A 16.) This allegation was not rebutted by Sprint at the formal hearing.

d. Staff's own consultant, Ron Bardarson, in responding to a question about the existence of a hacker in the Sprint system, stated that . . . "the possibility cannot be discarded." (Exhibit 7, Q&A 12.)

e. Scott Collins, Sprint's Docket Manager, in his Direct Testimony, stated as follows:
"He (Munoz) has shown me enough circumstantial evidence to convince me that he believes he is not receiving his c alls from hotel rooms. (Exhibit 42, Q&A, p. 8, lines 17-22.)

Looking at the overall picture painted by the above examples, it is respectfully suggested that Munoz has come upon a flaw in Sprint's system's which only Sprint is capable of detecting since only it has access to the network. Perhaps the age-old adage is applicable to this case: "Where there's smoke there's fire,"

C. Munoz's investigative efforts.

1. **The Holtz Group ("Holtz".)** Munoz retained Holtz in 1996 to investigate his phone problems. While Holtz did perform some testing, it had no access to Sprint's network and it received improper reports. Therefore, Holtz could only attempt to replicate Munoz's problems and speculate as to possible underlying causes. Holtz's reports are in evidence as Exhibits 30,31 and 40. As a part of the Holtz report, the possibility of a technical problem within Munoz's equipment was raised. (Exhibit 30, p. 5, sec. III A.) However, Munoz testified that Amtec consistently monitored his equipment and never found any defects in the equipment. (Tr. V. 3,pp. 491-494; also Exhibit 39.) After eliminating Munoz's equipment as a culprit, neither Holtz nor any of the other experts retained by the parties have been able to give a definitive answer why Munoz is not receiving his phone calls.

2. **November, 2000 testing.** Exhibit 37 is a summary of the phone calls made during November, 2000 as a result of testing performed by sprint after coordinating the format for the testing with Munoz and the Commission. The evidence shows that of 472 calls made during the test period only 271 were received by Munoz. In Scott Collins' own handwriting he acknowledges in Exhibit 37 that 201 calls are "missing." During his testimony on June 27,2002, Mr. Collins, after the passage of 19 months since the testing in November,2000, tried to verbally change what the written document undeniably shows in his own handwriting to instead mean that "there was a difference of 201 calls", not 201 calls missing. (Tr., V. 4, p. 775, 11. 10-17.) The undisputed fact is that there has never been a reasonable explanation by Sprint as to what happened to these 201 calls, a circumstance which clearly supports Munoz's allegations that he has not been receiving all of his phone calls. One page of the Sprint Special Request Report, included as part of Exhibit 37, shows nine (9) calls made to Munoz from Las Vegas hotels with a call duration of "0." Mr. Collins' explanation of this phenomenon, **which we heard for the first time during his testimony on June 24, 2002,** just does not make sense. In order to reconcile the "difference of 201 calls", Mr. Collins arbitrarily opted to exclude all calls of less than ten (10) seconds that were reflected on the SMRD. (Tr., V. 4, p. 780, 11. 11-16.) However, this begs the crucial question in this docket: What happened with those calls? An answer to that question would solve the continuing mystery. The calls obviously got through the hotels' switchboards as they are reflected on the report tracking the calls at Munoz's end. It is respectfully suggested that Sprint either has no answer or it is not disclosing all that it knows about this problem. See sec. D.8 below for further discussion of Sprint's failure to offer any technical expertise in this docket. Further, Sprint personnel were instructed not to discuss Munoz's phone problems with him due to ongoing legal problems, etc. (Exhibit 47 , pp. 010684, 010706, 010708-9.)

3. **Rio Hotel incident.** Munoz testified regarding a documented telephone call made to his number on January 5, 2001 from the Rio Hotel which he never received. (Tr., V. 2, pp. 445-449.) The calls to Munoz from the Rio were diverted to a number in California. Although someone appeared at the customer's room at the Rio in response to the call to Munoz, that person was not sent by Munoz and one can only speculate how that person knew where to ho at the Rio. Again what happened to the call?

4. **Kevin Mitnick.** The Commission is familiar with Mr. Mitnick's background and qualifications so they will not be repeated this time.

Mitnick was retained to perform extensive testing to determine the reason(s) for Munoz's diverted/dropped phone calls. His Direct Testimony (Exhibit 43), as well as his testimony before the Commission on June 24, 2002, which was for the most part unrebutted, can be summarized as follow:

a. Mitnick was able to gain unauthorized access into Sprint's Nevada network by using dial-up-modems on multiple occasions from 1993 – 1995, none of which were detected by Sprint. (Tr. V. 4, pp.618-623; p. 652, 1. 8 to p. 654, 1. 17.) Sprint cannot rebut this as it destroys its switch logs within forty-eight (48) hours. (Tr., V. 4, 0. 719, 1. 23 to p. 720, 1. 14.)

b. Mitnick, with the assistance of Nexspace, moved Munoz's phone lines to Westwood, California so all calls placed to Munoz's phone numbers would not terminate through Sprint's network. **This procedure also removed Munoz's own equipment as a culprit for the diverted/dropped phone calls.** (Tr. V. 4, pp. 637-640.)

c. Mitnick's review of Sprint's trouble tickets was hampered due to the lack of information regarding the codes used by Sprint. (Tr., V. 4, p. 641, 11. 2-7; p. 682, 1. 18 to p. 683, 1. 13.)

d. Munoz was not able to adequately fund the testing that Mitnick had planned to do. (Tr. V. 4, p. 638. 11. 9-10.)

e. Mitnick did not have access to Sprints network and internal switches for purposes of performing his recommended testing. (Tr., V. 4, p. 640, 11. 2-18.)

f. Mitnick recommended that any additional testing would
have to be performed with Sprint's full cooperation as open access is required to Sprint's network and switches. (Tr., V. 4, p. 640.)

Mitnick referred in his testimony to a "seed list", which contained the challenges and responses devised by Nortel in order to obtain the dial-up numbers to access Sprint's system. This list was produced during the hearing and was admitted as Exhibit 52. This document corroborates Mitnick's testimony that he was able to compromise Sprint's network on numerous occasions.

5. **Bridged taps.** Munoz found 2 bridged taps on his phone lines (Tr. V. 5, pp. 891-894.) He also discovered that someone had a test line programmed into his T-1 circuit from another location without this knowledge. (Tr. V. 5, pl 893, 11. 12-22.) Mr. Collins testified that a bridged tap may cause crosstalk and static on a DS1 circuit. (Exhibit 42, p. 7, 11. 8-14.)

6. **Trouble tickets.** Exhibit 47 contains more than 100 pages of "trouble tickers", which are repair records maintained by Sprint. All of these trouble tickets contain problems Munoz experienced over a long period of time relating to switches, Sprint's Central office, translations, trunks and the testing of his T-1 circuit. All of these documents were produced during discovery.

D. **What have these proceedings accomplished?** The burden of proof issue has been discussed above. IN attempting to satisfy his burden of proof, Munoz has been successful, at a great personal and financial expense, in shedding light on numerous issues which the Commission may consider on rendering its decision in this matter:

1. Sprint's Las Vegas network has been compromised in the past and, in Mitnick's opinion, can still be compromised.

2. The phone problems being experienced by Munoz have also been experienced by several other business.

3. Sprint has been less than prompt and forthright in giving full and complete responses to discovery requests, particularly explanations of alpha and numeric codes on trouble tickets. It also destroys certain business records in a peculiarly short period of time, thereby eliminating any audit trail.

4. The "testing" performed by Sprint has either not replaced the phone calls made from hotel rooms (i.e., they were made from lobby phones) or there was such a large unexplained discrepancy between the test calls made from hotel rooms and those received by Munoz that no satisfactory conclusions were ever communicated to Munoz.

5. Numerous law enforcement agencies, including the Las Vegas Metropolitan Police Department, the federal Bureau of Investigation and the Nevada Attorney General's Office have investigated and/or are still investigating Munoz's complaints of diverted/blocked calls.

6. The issues set forth in Munoz's formal complaint also have implications concerning national security as a result of the ability of hackers to compromise telephone company systems. (Tr.V.4,p.669,l.24 to p. 671,l.2.)

7. Sprint has offered no evidence at the formal hearing that it has performed an exhaustive test of both its network and Munoz's system in order to reach a final and determinative conclusion regarding Munoz's complaints.

8. All of Sprint's discovery responses were prepared by Scott Collins, Sprint Docket Manager, as was all of Sprint's testimony at the formal hearing presented by Mr. Collins, although the issues in this docket are very technical in nature. Mr. Collins admittedly has no technical expertise in these matters. This is an issue that was raised by Ron Bardarson in his Direct Testimony. It is apparent from Mr. Bardarson's Direct Testimony that the Sprint personnel he dealt with never considered the presence of a sophisticated hacker nor did he encounter anyone at Sprint who gave any thought to breaking into its own system as a test of its own security system. With all of Sprint's expertise in the telecommunications field, not

one person with technical telecommunications knowledge was presented to explain to the Commission what was happening to Munoz's phone calls. (Exhibit 7, Q&A 24.) Both Munoz and the Commission retained experts in an as yet futile effort to resolve this docket's issues. It does indeed seem very odd that Sprint, with all of its telecommunications expertise, chose to offer no technical explanations to the Commission other than what Mr. Collins may have Mr. Collins may have heard from co-workers. If anyone could get to the bottom of this docket's issues, it is Sprint as it has complete control of the network and it should have the personnel who are trained to operate and secure the network.

E. What is the appropriate remedy? After exchanging thousands of documents during the discovery process and listening to testimony for almost five full days, it seems apparent that no one individual telephone user is going to be able to determine the source of Munoz's and other users' phone problems without a complete and exhaustive study of Sprint's network by persons and/or entities having full access to everything and everyone necessary to conduct such a study.

As noted previously to the chagrin of Ron Bardarson, Sprint offered no technical explanations or alternatives to explain Munoz's dilemma other than to blame the problem on his equipment or alternatives to explain Munoz's dilemma other than to blame the problem on his equipment and advertising. While these factors admittedly need to be ruled out, the Nexspace testing took Munoz S equipment out of contention as a culprit as well as did the Amtec service agreement which resulted in constant monitoring of the subject equipment. The advertising theory initially raised by Holtz was also appropriately addressed by Munoz, who has spent tens of thousands of dollars on targeted ads, changed telephone numbers and enlarging his distribution network or news racks throughout Clark County and the City of Las Vegas. Munoz has not sat on his hands- he has made necessary changes based on opinion given to him. Unfortunately, he

never received a through and unbiased review and/or opinion for Sprint.

On the other hand, both Munoz and the Commission presented evidence from persons with high levels of expertise in the telecommunications field, albeit with differing points of view. Each of them, however came to the same conclusion; i.e. additional testing is required if the issue before the Commission is going to be resolved. It is also important to keep in mind that this is not a "Munoz" issue. The problems discussed in this docket have been experienced by numerous others and the ultimate ramifications if these problems are not resolved "are rather disturbing." (Exhibit 7, Q&A 29.) A summary of the recommendations made by the experts in this case follows:

1. Mitnick

a. An originating trap and trace should be set up in each of Sprint's central offices in the Las Vegas area. This would enable audit records to be created, which could be compared to the records of the long-distance carrier. (Tr., V. 4,p. 640, II. 8-18.) Sprint declined this request.

b. An ss-7 trap and trace should be set up with a long-distance carrier to determine if there is any manipulation happening over the network. (Tr., V.4,p.640, II. 19-25.)

c. There is something "amiss" in that Munoz is not receiving his calls and more testing of Sprint's network is required. (Tr., V.4, p. 657,1. 16 to p.659,1.9.)

2. Bardarson. Mr. Bardarson testified at length regarding the testing he would recommend in this case. He also opined that the Commission's Staff should complete an internal security review in a separate investigatory docket. (Exhibit 7, Q&A 29.) On cross-examination on June 25, 2002, Mr. Bardarson gave the following testimony regarding the additional testing he would do in attempt to resolve the issues raised by this docket:

Q (Mr. Alpert) You also testified that the testing should be done for an extended period of time. What do you consider to be an extended period of time?

A Given Mr. Munoz's sort of period of complaint, I would strongly suspect that two weeks is sufficient. You may be able to do it in less.

Q This is a two-week continuous testing?

A Twenty-four hours a day.

Q Who would suggest conduct the testing?

A Well, I'm a very hands-on kind of person. I can expound upon my background where there's a few legends about my troubleshooting ability. I would be interested in doing that. But I'd want to ensure that I had carte blanche.

In the past I've been given that and I've done quite remarkable things. There are other people that are available. I don't necessarily want to do that, but I do have a different point of view here.

Q What do you mean you have a different point of view?

A Well, I'm quite willing to listen to what Mr. Munoz says, even though at times I wonder whether or not it's fully going on, I'm quite willing to listen to what Sprint says. And I believe that they could both be exactly right.

You don't know what's really going on here until you sit down and go through that detailed test and you carefully dot your I's and cross your T's time after time, you don't really know. You can't rely on a human being to do that. You need to machine logging, and you need to do that in a fashion that both sides can come to agreement on.

I happen to be sitting in the middle of both sides.

Q Have you performed this type of testing before?

A I've performed very similar testing on thousands of data points while working at ESL. That was one of my primary troubleshooting techniques. Its not thousands, it's probably in the order if millions, carefully indicate evaluating the data in both places.

To give you a small story of the kind of abilities I had – of the kind of power I had at ESL, I've been known to be sent to a site to a site where people had been working on a problem for three days, and walk in and

solve the problem in 20 minutes. And that's not because I have some extraordinary ability other that the fact that I'm willing to think outside the bounds that everybody else wants to put on the problem.

It's very simple for me to reach over an say: You guys never considered this. I consider all possibilities and try to keep the field open as much as possible. I also protect people's confidentiality. (Tr., V. 5, pp. 864-866.)

It is apparent from Mr. Bardarson's extensive exposure to this docket that he is familiar with the respective positions of Munoz, Sprint and the Commission and that he is in a position, with the cooperative of all parties, to use his best efforts to once and for all reach a definitive answer to a question that has eluded everyone for many years.

F. **Conclusion.** There is nothing more that Munoz can do the prove his case. The answer lies in more testing and the experts are in agreement on this. To have come this far only to fail to resolve to issues raised by Munoz will result in financial ruin by Munoz and could potentially have far-reaching national security and organized crime implications.

It is respectfully requested that the Commission order the parties to cooperate and jointly conduct such futher testing as Mr. Bardarson or another Commission designee deems appropriate and that the Commission retain jurisdiction of this docket until such testing has been completed, a final written report has been prepared ad submitted to the Commission and the Commission has had an opportunity to fully evaluate the results of the testing.

DATED: August 14,2002.

(s)_____

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Attroney for EDDIE MUNOZ

CERTIFICATE OF MAILING

I hereby certify that on August 16 2002, I sent a copy of the foregoing CLOSING ARGUMENT OF EDDIE MUNOZ, by regular First Class Mail, postage prepaid, addresses to the following:

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(s)_____
An employee of Peter Alpert, Esq.

PUBLIC UTILITIES COMMISSION OF NEVADA
REBUTTAL TO PREPARED TESTIMONY OF
SCOTT COLLINS
REBUTTAL TESTIMONY FROM EDDIE MUNOZ
Docket No. 00-6057

(RECEIVED
FEB 28 2002
PUBLIC UTILITIES COMMISSION
LAS VEGAS)

1.Q. Please state your name and address.

1.A. Eddie Munoz, P.O. Box 61344, Las Vegas, NV 89160.

2.Q. Does Scott Collins Direct Testimony indicate that he has any background in telecommunications security, or that he meets the guidelines set forth in the Nevada Attorney General's Cyber Crime Task Force?

2.A. No. See (Exhibit 1) See (Exhibit 3) Ron Bardarson.

3.Q. Do you have any further comments regarding the testing described by Mr. Collins?

3.A. Yes. See (Exhibit 2) on parameters of test. On the night of November 18, 2000, Scott Collins and I manually counted answered test calls off of the SMRD reports, and he got operation measures reports to get call counts form Sprint switchmen. The discrepancy is very significant due to 201 missing business calls from a total of 406 calls made 205 were test calls. Scott Collins took the results see (Exhibit 3) with him the night of November 18th and was supposed to check what happened during the hours of testing to see why there was such a discrepancy. We only received calls from the test rooms which was very unusual. The only other call received were from cell phones, house phones, long distance and pay phones see (Exhibit 4). This was very strange because reports reflect that hotel guests tried

calling, but didn't get through to us. (exhibit 4) shows the SMRD, hand written notes that correspond to Sprint reports. What did surprise me was that Sprint security took time to identify the trunk groups prior to testing see (Exhibit 5). This explains why we received all calls from test rooms. These calls were made to be sure they went through to us. Sprint had personnel stationed at all points during testing and a few times security would run outside and talk, leaving me in the dark about what was happening see (Exhibit 5). Sprint did not count on the real time data to give me concrete proof of me not receiving any business calls see (Exhibit 4). After Scott Collins viewed these reports at the Commission on February 22, 2000, Sprint had stopped giving reports to me. At the initial installation we had requested on real time data reports to be faxed to me nightly. This service is called Fonview see (Exhibit 7).

4.Q. Mr. Collins stated that none of the test calls were diverted to one of your competitors. Do you agree with that statement?

4.A. I disagree that none of the test calls were diverted. Line 8-Pg. 3: Rio diversion and Rio test see (Exhibit 6). I did follow up with Gayland Hammack and Roy Brotherson of Metro's Organized Crime Bureau about the numbers on the test phone bills see (Exhibit 6-Bates 007349). I had given these numbers to Scott Collins to check out, but didn't get any response regarding the persons associated with these phone numbers. The diversion incident was confirmed from a written statement from a couple at the Rio see (Exhibit 6- Bates 010369). These numbers are in Van Nuys, California see (Exhibit 6-Bates 000606). The bill shows the number dialed from the Rio Hotel room and our office number. On Sprint's bill, it shows (Bates 000613) a Van Nuys

number as in (Exhibit 6-Bates 007349). In Scott Collins deposition, he testified about the Rio diversion and Rio test, but he did not do a report on this diversion incident.

As you can see in (Exhibit 6)(CEN 1530, 1531, 1520, 1521), for their test, Sprint did do a report. We have complained that people get fast busies from hotel rooms. This accounts for origination on reports of callers, being blocked at Sprint's Main. Sprint should have done more investigation on Rio test quick busies see (Exhibit 12F) Ron Bardarson testing. A phone number that went to a pager later came to us, as stated in Scott Collins' deposition (Bates 011393), There are several issues with the Rio that need further investigation. My investigation see (Exhibit 6 – Bates 010397) has led to identifying Sprint switchmen going to the office of Frank Bartello, a competitor. The Rio information is now classified, as it is part of an organized crime investigation.

5.Q. Mr. Collins stated that none of the calls were dropped during the testing process. Do you agree with that statement?

5.A. No. See (Exhibit 4) Scott Collins saw the reports from the November 2000, testing and realized they matched when I showed them to him, that we had 201 dropped calls see (Exhibit 3). After these reports, no data was available to me and Scott Collins talked to my service representatives at Sprint. Within days, Sprint employees stopped taking to me and were transferred. All my customer reports stopped. I have never received any of Fonview reports. Four different Sprint representatives would not return calls see (Exhibit 7). These acts have hampered our investigation and call tracking, which shows we are not receiving our calls. Scott Collins has closed doors by telling everyone this is being handled by "legal", leaving me a consumer with no help.

Service products that were sold to me which were designated for business practices were stopped. These are reflected in (Exhibit 8). Scott Collins also has closed out trouble tickets without permission and with techs not fixing the problems see (Exhibit 15). CEN 84, 98, 2129, 2130, 2132, 2134, 2135, 2136.

6.Q. Do you agree with the reasons for the incomplete calls as described in Attachment B to Mr. Collins Direct Testimony?

6.A. No. Sprint cannot explain 201 dropped calls, quick busies or out-of-service recordings in Attachment B, number 1-800-487-0313 see (Exhibit 9). As you can see, this has nothing to do with porting. This number was on Sprints bills for 3 months 9/24/00, 10/24/00 and 11/24/00 regarding this test number. Why on the night of testing do they get a recording? I have several issues which I have addressed to Scott Collins and his reply is "he'll look into it". We are still waiting for a acceptable response. Sprint wants us to know 205 test calls came through to divert attention from the real issues of 201 missing calls during Comdex, which was attended by 200,000 people and calls were witnessed by Sprint employees. Why did I only receive the 205 test calls? See (Exhibit 3 and 4).

7.Q. Do you agree that the test conducted were valid?

7.A. No. Line 25- Pg.3: It was Sprint's idea to have people stationed at all points of the test, not mine. We should have tested first if there was a problem and been allowed to do more investigation, if necessary. This was a new circuit being used in the test and we should have received all calls, not just the test calls see (Exhibit 10 and Exhibit 4). We were not allowed on a bridge to hear what was happening with Sprint's technicians, who were told to watch what they say around me. See (Exhibit 5).

Line 1-Pg. 4: We weren't invited to the entire test procedure and we didn't get a chance to have our investigator at the Rio do to hotel diversion incidents, See (Exhibit 6).

Line 1-Pg. 4: Sprint Security personnel were using cell phones which are easy to intercept. Hackers are a very sophisticated, elite group of people who can easily access computer and cellular satellite networks.

8.Q. Do you believe that Sprint has taken your allegations of call diversion seriously?

8.A. No. Line 10- Pg. 4 see (Exhibit 8): I have been told by Sprint that it is not a policing agent. Several complaints made by me have been brushed off. Sprint would not cooperate with senior investigators at MCI, AT&T, Telco or Toll fraud units. Switchmen would not respond to weekend complaints at the time of incidents, but waited until Monday morning 9:00 A.M. when things would go back to normal. Weekends are our busiest times and we would get the brush off and insults to our character by Sprint personnel because of the adult aspect of our business. Due to Sprint security's opinion that nothing is wrong, people's time and money have been wasted and lines have been ruined see (Exhibit 11). These acts have been criminal in hampering prosecution, which puzzles me, due to Sprint having over 100 pages of adult ads in the Yellow Pages (owned by Sprint). The three suspects in organized crime investigation own the 100 pages of ads between themselves. See (Exhibits 12 and 13). Yellow page, Representative have been suspended due to involvement of the individuals.

9.Q. Do you agree that Sprint has done a reasonable and prudent job of investigating your complaints?

9.A. No. Line 15- Pg.4: Sprint must have me confused with someone else, since Sprint has only recently done some testing after the Commission allowed a formal complaint to be filed in my case. Since 1996, Sprint and the P.U.C. gave shielded any complaints to be investigated by Sprint telling the P.U.C. that there is nothing wrong. Sprint knows that nobody can test its own network but Sprint see (Exhibit 11 and 14).

Line 17- Pg. 4: Call comparison/201 missing calls see (Exhibit 3 and 4). There is still no logical explanation for these missing calls.

10.Q. Do you agree with Mr. Collins that Sprint has done enough to investigate your claims of call diversion and other service problems?

10.A. No.Line 21- Pg. 4: Since 1996 I hadn't been a Sprint customer until the testing in 2000, so Sprint must be confusing me with someone else for five years and AT&T and MCI Security made complaints to Sprint on my behalf as I was their customer to the F.B.I. and Organized Crime Unit Gayland Hammack and Roy Brotherson.
Line 2- Pg. 2: See (Exhibit 15). Sprint's trouble tickets of T-1 testing circuit show there are various complaints and problems such as framing errors, bio polar variation, two bridge taps, cross talk, etc. There are various network problems. There is little information as to codes and tables, the ability to interrupt properly and the switch and translation problems see (Exhibit 28), are examples of proper codes tables. All of this is located in central offices of Sprint and it isolates NOC technical assistance of Kansas City Nortel switch group. Several times Scott Collins has stopped progress on testing by calling and saying this is being handled by legal network tickets which were classified as proprietary and confidential see (Exhibit 8). We did not get any files from Peggy Barton or the Security Department on these issues. Due to the

lengthy Response to Data Requ8est 47 A-P, we would like to introduce these incidents at the formal hearing.

11.Q. Do you agree with the example given by Mr. Collins on page 4-6 of his Direct Testimony?

11.A. No. Line 1- Pg. 5: See (Exhibit 33), slamming Data Request 47 I.

Line 9-Pg. 5: Federal documents state that Charles Convey has conspired with Sprint employees see (Exhibit 16). This allegation is from the United States Strike Force, Organized Crime, Department of Justice.

Line 17-Pg.28: "These incidents sabotage operators and are very harassing in disrupting business practices. The time and effort to track down telemarketers to stop these disruptions is very difficult.

Line 2-Pg. 6: This beeping sound follows our lines when we change telephone numbers or locations. This sound starts and goes away. It only comes back when something changes with a telephone. It's signal of some tracing equipment, which rings every minute, which is very annoying and scary that people can check coming and going to target a person.

12.Q. Do you agree with Mr. Collins explanation regarding the cross talk problems you have experienced?

12.A. No. Line 7-Pg. 6: See (Exhibit 17). This explains what happened. Bridge tap facts and findings

13.Q. Do you agree with Mr. Collins explanation regarding a bridged tap?

13.A. No. Line 13-Pg. 7: See (Exhibit 17). We had the same problem with another bridge tap had went to the same address- 4212 New York Ave. There was no excessive cable. The office is only six thousand

approximately (6,000) feet from Sprint's 7-E central office. Prior to installation, cable men inspected and tested lines and tagged it a dedicated span line since cable faculties are all Sprint network. How did these taps get placed? Scott Collins states in his deposition that a bridge tap would cause cross talk, static and dropped calls by losing voltage.

14.Q. Do you feel you have provided evidence on how calls are being diverted?

14.A. Yes. Line 18-Pg. 7: I've explained several theories to Scott Collins based on past experiences of problems on a daily basis. He has not produced his notes which correspond with security see (Exhibit 18), or they are now claimed to be confidential and been provided to us. Perhaps this has been inadvertently destroyed too see (Exhibit 31).

Line 19-Pg. 7: Sprint must have me confused with someone else again with similar complaints see (Exhibit 19). This problem is bigger than Sprint wants to admit. If it can't fix the F.B.I.'s phones, what's a consumer supposed to do for help?

15.Q. Do you have the resources or the ability to perform all necessary test in this case?

15.A. No. Line 26-Pg. 7: The entire network is controlled by Sprint see (Exhibit 14). The test during November 2000 gave concrete proof of not receiving all of my hotel calls. The lack of Sprint's cooperation has hampered finding a real solution. My system was end to end with Sprint so we could find the exact source, but I don't have access to Sprint's network systems. A customer is only responsible to DSI unit provided by Sprint.

Line 4-Pg. 8: See (Exhibit 14). For the three days of testing in November 2000, I did excessive advertising and Sprint witnessed my logs and incoming calls. Sprint's

reports show a difference of 201 missing calls. This needs to be explained. I am only a customer trying to run a business. Approximately two hundred (200) pages of trouble tickets shows problems present see (Exhibit 15). See also past trouble tickets see (Exhibit 20). These are all central office issues and switch and translation problems. Frame relays, signaling, trunk groups issues of Sprint network

Line 8-Pg. 8: See reports see (Exhibit 3,4,6,8,15,17). Data request 47 A-P.

16.Q. Do you have any reports that show you are not receiving your calls?

16.A. Yes. Line 21-Pg. 8: The 800 number gives us the origination number of the caller, Sprint's reports show hotel numbers with zero second durtations which us classified as a attempted caller see (Exhibit 21). See circled ingformationj on this report, which shows that the call was not re3ceived. Hotels, monitoring of Sprint NOC of Kansas City states calls from hotels drop. See (Exhibit 21).

17.Q. Do you believe that Sprint is the cause of any decrease in volume of calls to you business?

17.A. Yes. Line 26-Pg. 8: See (Exhibit 3, 4,6,11,15,17,). Line 27 –Pg.8: Sprint has been confused again with someone else. Both Robert Poole and Kathy Hodge testified that is later years they have had several other complaints. See also Rick Hackman testimony see (Exhibit 22).

Line 1-Pg. 9: Sprint's data base does have data that has been withheld from us see (Exhibit 23,29,31) and security files have been destroyed. Sprint Data Basis holds information for years.

Line 5-Pg. 9: Several hundred calls were completed and 201 calls to be exact were dropped and were not successfully completed during the test see (Exhibit 3 and 4). Trouble tickets reflect, thousands f lost calls see (Exhibit 15 and 29).

18.Q. Do you agree with Mr., Collins explanation of Hotel Private Branch Exchanges?

18.A. Line 2-Pg. 10: With 800 numbers, we pay for payphone calls. We pay for all usage and it is free to the customer.

Line 14-Pg. 10: See (Exhibit 24). Consumer complaints of guests in a hotel are to be routed to the FCC and P.U.C. Sprint sells phone systems to hotels manages, (PBXs) see and the hotels control all fiber and COS in the hotel network. See (Exhibit 32). See (Exhibit 7) Ron Bardarson.

19.Q. Do you agree that the P.U.C. had no jurisdiction over private hotel switches?

19.A. No. Line 14-Pg. 10: P.U.C. does have jurisdiction see (Exhibit 24). All aspects of what is occurring in the hotels need to be investigated see (Exhibit 34).

Line 15-Pg. 10: See (Exhibit 34)

20.Q. Have you checked you own telephone equipment to make sure it is working properly?

20.A. Yes. Line 28-Pg. 10: I have checked my equipment thoroughly. The problem is not me equipment see (Exhibit 26). Maintenance logs show no problem.

Line 6-Pg. 11: I have several type of systems from complex to simple. I've had offices with just a phone and a desk. I've had call center of 2000 sq. feet telemarketing set up with 600, 800 toll free numbers. I've had several

locations and problems occur in all if them see (Exhibit 15,29, and 26). The phone system installed by Sprint has had several of the same issues. This is a switch and translations internal problem see (Exhibit 15). SS7 Network see (Exhibit 32).

Line 22-Pg. 11: Kevin Mitnick testimony explained that it was possible to breach Sprint Network. Sprint claims they never had been hacked or had a breach. See (Exhibit 27).

Line 6-Pg. 12: Kevin states he had access until 1995. F.B.I. documents state Organized Crime Bureau figures had access up to 1997. See (Exhibit 16) see (Exhibit 4) Ron Bardarson shows breaches up to 1999.

22.Q. Line 21-Pg. 12: Have you supplied the data re quested by Sprint?

22.A. See (Exhibit 30) 16-32 Data Request Sprints direct questions to investigation of suspects and incidents. I have spent great resource acquiring the data by investigator, surveillance, research, etc. Sprint didn't expect me to have this much information. If Sprint security would have done their job to investigate suspects and claims they might have a better answer than all security files were inadvertently destroyed. So who is wasting who's time 11 years to get someone to stand up and do their hob is criminal.

23.Q. Has Sprint furnished you with everything you have requested?

23. A. No. Line 17-Pg. 12: There are missing security files and traffic reports Sprint should be compelled to produce security files and all related information see (Exhibit 23, 29, and 31 to code tables to understand. Sanction should apply.

STATE OF NEVADA)
)ss:
COUNTY OF CLARK)

Eddie Munoz, being first duly sworn, under oath, deposes and says:

That he has read the foregoing REBUTTAL TO PREPARED DIRECT TESTIMONY OF COLLINS and understands its content, and that the same is true of his own knowledge, except for those matters, he believes them to be true.

(s)_____
EDDIE MUNOZ

SUBSCRIBED AND SWORN TO before me this 27th day of February, 2002

(s)_____
NOTARY PUBLIC

EXHIBITS INDEX

REBUTTAL PREPARED DIRECT TESTIMONY OF SCOTT COLLINS

REBUTTAL FROM EDDIE MUNOZ

Docket No. 00-6057

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Exhibit 3 201 missing calls, deposition transcript, Scott Collins testimony

Exhibit 4 Phone logs and reports of Comdex 11, 14, 18, Hotel SBN numbers

Exhibit 5 Trunk groups, sprint employees stations during Comdex testing

Exhibit 6 Rio diversion statements and facts, Rio test report, Burt Goodrich investigation report

Exhibit 7 Fonview correspondence

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Exhibit 9 Out of service recording, billing documents

Exhibit 10 Report of 11, 14, 18 Comdex, Sprint reports

Exhibit 11 Staff Rick Hackman testimony

Exhibit 12 News story

Exhibit 13 News stories, New York Times, Review Journal, Metro

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Exhibit 16 Organized crime, Strike force of US attorney office

Exhibit 17 1 Bridge tap, 2nd bridge tap 2nd location

Exhibit 18 Deposition of Scott Collins, Fax to Jerry Franke

Exhibit 19 FBI story on phone problems

Exhibit 20 Past trouble ticket numbers for Telco, MCI and AT&T

Exhibit 21 Sprint report example

Exhibit 22 Staff Rick Hackman testimony

Exhibit 23 Data request denied, destroyed records

Exhibit 24 Jurisdiction PUC and FCC to current legislation

Exhibit 25 Gaming control board

Exhibit 26 Amtec reports and billing, Munoz phone equipmint

Exhibit 27 Kevin Mitnick testimony

Exhibit 28 Example of correct type of code tables

Exhibit 29 Missing data requested from Sprint

Exhibit 30 Index of data request response

Exhibit 31 Missing security and confidential information pertaining to Docket No 00-6057

Exhibit 32 SS7 network vulnerabilities

Exhibit 33 Slamming incident

Exhibit 34 PBX investigation reports

CERTIFICATE OF MAILING

I hereby certify that on the 28th day of February, 2002, I caused to be served a true and correct copy of the foregoing **REBUTTAL TO PREPARED DIRECT TESTIMONY OF SCOTT COLLINS, REBUTTAL TESTIMONY FROM EDDIE MUNOZ,** Docket No. 00-6057, as follows:

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EDDIE MUNOZ